

**TECHNICAL REVIEW DOCUMENT**  
**for**  
**MODIFICATION TO OPERATING PERMIT 96OPDE136**

Public Service Co – Arapahoe Station  
Denver County  
Source ID 0310008

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**I. Purpose:**

This document establishes the decisions made regarding the requested modification to the Operating Permit for Public Service Company's Arapahoe Station. This document provides information describing the type of modification and the changes made to the permit as requested by the source and the changes made due to the Division's analysis.

This document is designed for reference during review of the proposed permit by EPA and for future reference by the Division to aid in any additional permit modifications at this facility. The conclusions made in this report are based on the information provided in the request for modification submitted to the Division May 12, 2004, e-mail correspondence and telephone conversations with the source. This narrative is intended only as an adjunct for the reviewer and has no legal standing.

Any revisions made to the underlying construction permits associated with this facility made in conjunction with the processing of this operating permit application have been reviewed in accordance with the requirements of Regulation No. 3, Part B, Construction Permits, and have been found to meet all applicable substantive and procedural requirements. This operating permit incorporates and shall be considered to be a combined construction/operating permit for any such revision, and the permittee shall be allowed to operate under the revised conditions upon issuance of this operating permit without applying for a revision to this permit or for an additional or revised construction permit.

**II. Description of Permit Modification Request/Modification Type**

The Operating Permit for the Arapahoe Station was issued on December 1, 2001. Public Service Company (PSCo) entered into a Voluntary Emissions Reduction Agreement with the Colorado Air Pollution Control Division that applies to the Denver metro area plants (Arapahoe, Valmont and Cherokee). The agreement took effect on January 1, 2003. The agreement requires that calendar year SO<sub>2</sub> emissions from the Denver metro area plants not exceed 10,500 tons/yr or reduce uncontrolled SO<sub>2</sub> emissions by 70%. The agreement specified a calculation methodology to determine the percent reduction of SO<sub>2</sub> emissions. The provisions in the agreement were included in the November 14, 2003 revised Title V operating permit and the percent reduction calculation methodology was included in Appendix G. The source requested changes to the percent reduction calculation methodology.

The provisions in the Voluntary Emissions Reduction Agreement are State-only requirements and the agreement went through public comment and was approved by the Colorado Air Quality Control Commission (AQCC). Since the Division considers that the changes the source is requesting are non-material the Division considers that modifications to the agreement's percent reduction calculation methodology may be made as a minor modification.

### **III. Modeling**

No changes to emission limitations are being made with this modification, therefore, no modeling is required.

### **IV. Discussion of Modifications Made**

#### **Source Requested Modifications**

The Division addressed the source-s requested modifications as follows:

#### **Voluntary Emissions Reduction Agreement Percent Reduction Calculation Methodology (Appendix G)**

The percent reduction calculation methodology requires the source to determine the outlet SO<sub>2</sub> emission rate by dividing the outlet SO<sub>2</sub> emissions (tons/yr) by the annual heat input (mmBtu/yr) based on fuel sampling. Since the outlet SO<sub>2</sub> emission data is taken from the continuous emission monitoring system (CEMS), which also records the heat input rate, the source has indicated that it makes more sense to calculate the emission rate by dividing by the heat input determined by the CEMS. The Division agrees and has revised Appendix G as requested by the source. The specific changes made to the percent reduction calculation methodology are as follows:

- Removed section 3 (accounting for burning of natural gas)
- Removed the calculation of metrowide total annual gas Btus (section 6).
- Changed the calculation of controlled SO<sub>2</sub> emission rate (Section 9) to use the annual heat input from the CEMS rather than the Btus (heat input) from coal and natural gas as determined from fuel use and fuel sampling data.

#### **Other Modifications**

In addition to the requested modifications made by the source, the Division used this opportunity to include changes to make the permit more consistent with recently issued permits, include comments made by EPA on other Operating Permits, as well as correct errors or omissions identified during inspections and/or discrepancies identified during review of this modification.

The Division has made the following revisions, based on recent internal permit

processing decisions and EPA comments on other permits, to the Arapahoe Station Operating Permit with the source's requested modifications. These changes are as follows:

#### Section I – General Activities and Summary

- In Condition 1.4, General Condition 3.g (Common Provisions, Affirmative Defense) was added as a State-only requirement.

#### Section V – General Conditions

- General Condition No. 3 was revised to reflect that 3.g (affirmative defense) is state-only until approved by EPA.